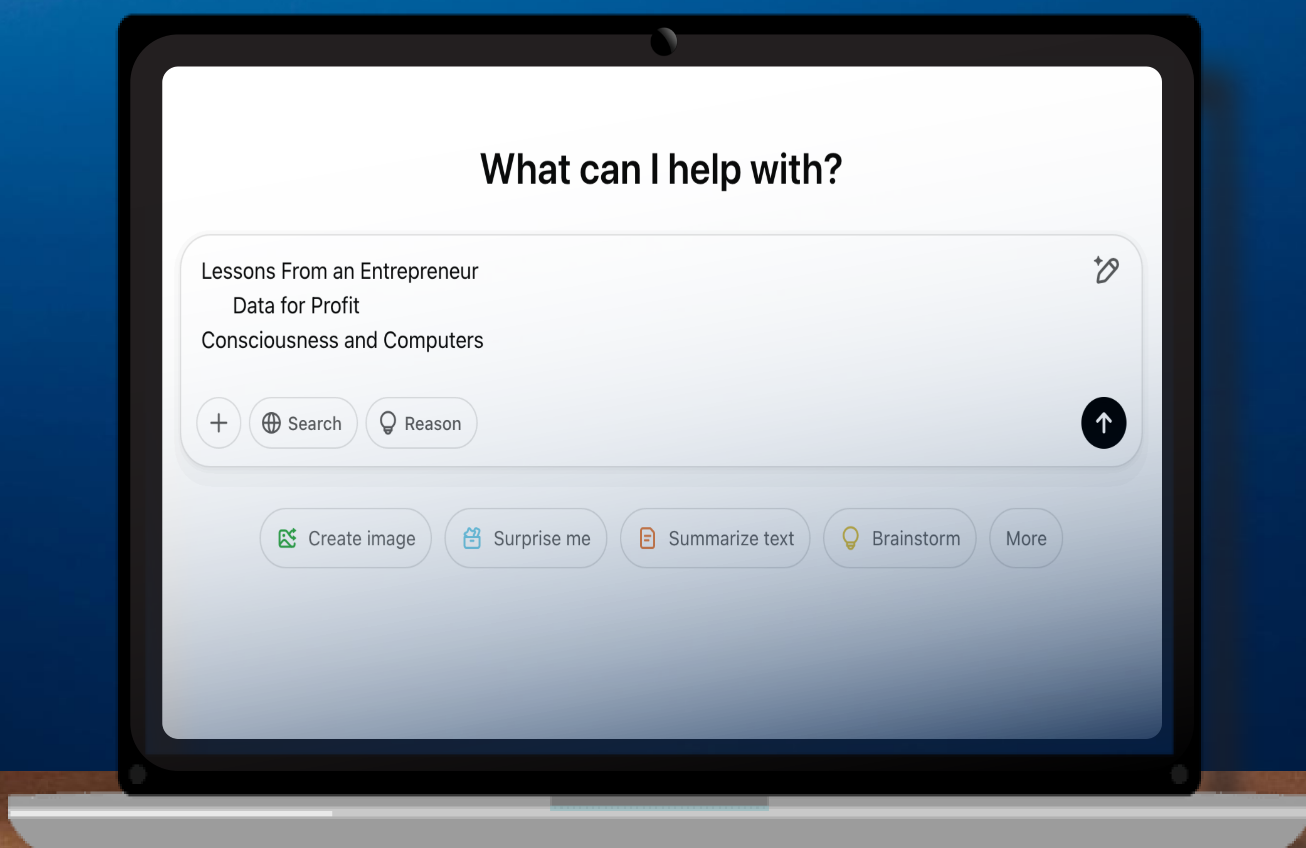
CORNELL BUSINESS REVIEW

Fall 2024

Exclusive interview with Shelly Cerio, former executive at NVIDIA



Entrepreneurship and AI

LETTER FROM THE EDITOR

Three years have passed since the Cornell Business Review last published an edition, and so much has changed. From the astounding rise of AI technologies to a surge of virtual solutions reshaping workplaces and the conduct of business around the globe, these years have supercharged the digital transformation of our world. As a student publication, we've witnessed these shifts firsthand: classrooms moved online, Zoom replaced conference rooms, and new AI-driven tools became indispensable in both academic and professional spaces. Despite these changes, one constant remains—our commitment to sharing ideas powered by our writers' passions, not just recycled headlines.

Looking back at earlier editions, it's clear that our original, balanced approach has served us well. Now, in our first inaugural issue since Fall 2021, we're reigniting that same passion. Our 24th edition is more global, more tech-forward, and more daring in scope—reflecting how our world has evolved since we last went to press.

On a personal note, the journey from Fall 2021 to Fall 2024 has been a lesson in adaptability, both for me as Editor-in-Chief and for the entire CBR community. I owe tremendous gratitude to CBR's Executive Board and all those who made this revival possible: Adam Rose as Managing Editor and now Co-Editor-in-Chief and Felice Cheng as Executive Vice President. I'd like to personally thank both Adam and Felice for their incredible contributions, especially as I relinquished many responsibilities to them while overseas in London.

Finally, to our readership—whether you've stayed with us since 2021 or you're discovering us for the first time—thank you for your support. We invite you to engage with us as we continue to explore the intersection of technology, finance, and global business.

Here's to new beginnings and bold ideas in the Fall 2024 edition of the Cornell Business Review!

Aaron D. Friedman

Editor-in-Chief, Cornell Business Review

Cornell Business Review

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Interview with Shelly Cerio (Cornell ILR' 92)

Shelly Cerio (ILR '92), former HR executive at GE, Amazon, NVIDIA

Written By
Adam Rose

Shelly Cerio (Cornell ILR '92) recently retired from an exceptional career as an HR executive in the tech industry, with leadership roles at General Electric (GE), Amazon, and NVIDIA. Shelly grew up in Canastota, a rural town in New York, before attending Cornell's ILR school and later on, Duke's Fuqua MBA program. Her career brought her from a small town of a few thousand people to the Bay Area headquarters of one of the most influential companies in the world, NVIDIA.

The goal of this interview was not only to highlight Shelly's career success but also the rewarding nature of human resources and its critical role in shaping some of the world's most innovative companies. It was a privilege to have her share her experiences with the Cornell Business Review.

What drew you to choose and stay in HR?

Shelly Cerio: Initially, I didn't even know about HR as a career path. I chose to study Industrial and Labor Relations (ILR) at Cornell because I intended to pursue a law degree after undergrad. Growing up in a family-owned business, I saw firsthand how important the relationship is with employees. If you treat them well, they treat you well.

After graduating in 1992, it was tough to land a job. We were in the midst of a recession and international geopolitical concerns. I was hired into GE, a highly respected global company at the time, onto their HR leadership program. What start-

ed as a two-year assignment turned into a 14-year stint. GE's program offered great development opportunities, and I took every opportunity I could while working there, even if it meant relocating or covering for people on leave.

What also attracted me to HR was my realization—partly through my family business experience—that employees, especially those who cannot represent themselves, need someone to understand their needs and advocate for them. HR offers the chance to address their concerns, make the workplace better, and help a company grow through committed people. Employees inherently want to do great work, show value, feel valued, and make an impact. They often just need guidance or intervention to thrive.

As for the sentiment around representing management, my job isn't just about management; it's about creating an environment and culture that work for both employees and managers. I see HR as responsible for finding and fixing the disconnects and ultimately, fostering conditions where everyone can succeed.

What is unique about HR in the tech industry?

Shelly Cerio: In the tech industry, things move at an entirely different speed. I saw this immediately when I went to Amazon. The pace of change and the need for adaptability in tech are remarkable—it's hard to describe unless you're in it.

At tech companies like Amazon or NVIDIA, you're constantly building and rebuilding processes and systems. Mistakes are acceptable because the work is often unprecedented. There's a bigger margin for error in tech compared to industries where mistakes have little to no room for tolerance. In tech, if you're wrong, you learn quickly and adjust. As an HR professional, it's critical to align strategies to your company's unique needs, rather than copying best practices from other companies. You must customize solutions quickly and adjust as needed to keep up with the rapid pace.

What would you say to students worried about the lack of upward mobility and opportunity in HR?

Shelly Cerio: I understand students' concerns that HR might not be seen as a strategic role or that they won't interact with executive leadership like the CEO or CFO. However, every company is focused on delivering results, and HR plays a key role in fostering the best work conditions which contributes to achieving those business outcomes.

HR has become increasingly dynamic, strategic, and an important part of companies who value people. Whether you pursue a specialized path like compensation or recruiting, or you focus on broader people leadership, you can make a significant impact.

I know professionals who are domain experts in specific areas like compensation or recruiting, and they are renowned for their expertise. On the other hand, I've focused on P&L HR management while building a solid baseline of domain knowledge. Both paths can lead to success - both paths can provide people leadership opportunities, a chance to prove that you can get important work done, and lead to partnering with other business functions. All elements for career growth. Ultimately, regardless of the role, HR's value lies in being involved in the most critical work and contributing to making the company stronger.

What do you think about the future of labor as it relates to automation and AI?

Shelly Cerio: Technology has been improving for decades, but now we're seeing leapfrog advancements. Every role will be impacted. While repetitive work will be automated, this will free up mental capacity for workers to think critically about their tasks and focus on the "why" behind their work and how they can get to a better outcome faster and more simplified.

Automation and AI will foster increased creativity and lead to an "inventor mindset," where innovations happen at a faster rate. With better data and analytics, people will make more informed decisions upfront, improving the quality of their work. Solutions will be more relevant to individuals rather than for the masses, which will be a different direction than taken today.

Can you speak to the importance of voicing and defending your own ideas, even when they differ from your supervisor's?

Shelly Cerio: For HR professionals, this is critical. You need to be comfortable contributing to discussions and sharing your ideas, even when they're contrarian. Confidence is key, and you can't let the fear of your ideas falling flat stop you from speaking up.

It's also about knowing when and how to present ideas effectively. As a representative of the people, it should not be just your opinion but you must know and represent the view of the people in the workforce first, then layer on your perspective and the reasoning, which is hopefully data-driven or influenced by the employee-need.

Why the U.S. Is Losing to China in the EV Race

Written By
Anant Srinivasan

The global automotive industry is undergoing a critical shift, with electric vehicles (EVs) at the forefront of the transformation. EVs offer clean, sustainable alternatives to traditional pollution-emitting vehicles and are favored by consumers and governments that are aiming to go green. As firms and countries race to dominate this critical industry, China has emerged as a clear leader in recent years. The stakes are clear: the winner of the EV race will shape the future of mobility and energy.

China's Ascent

At the turn of the twenty-first century, Chinese automakers and government officials recognized that China could not compete with its American, German, and Japanese counterparts in the production of traditional gas-powered cars. Meanwhile, China suffered from a worsening air pollution crisis, which drew increasing public concern starting in the late-1990s and extended through the leadup to the 2008 Beijing Summer Olympics. The Chinese government was also working to reduce the country's reliance on imported oil. Together with these pressures, the entire world was suffering in the aftermath of the 2007-2008 financial crisis that battered the Chinese manufacturing sector.

With both the economy and the environment in limbo, China's government made a decisive and risky move: pouring a huge amount of money into the production of EVs well before anyone else had done so. The Center for Strategic and International Studies (CSIS), a Washington D.C. think tank, estimated that in the past fifteen years Chinese government support for EV manufacturing has totaled to over $230 billion.

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China enacted supply- and demand-side policies to incentivize EVs, focusing on both consumers and manufacturers.[4] Consumers have been rebated heavily for switching from gas-powered vehicles to electric ones, typically in the form of discounted purchase prices and tax exemptions for purchasers (the former was phased out in late 2022 as the industry matured). These rebates have accounted for more than $65 billion, or nearly 30%, of CSIS' total spending estimate Targeting the supply-side of the industry, China implemented a NEV (New Energy Vehicles) mandate on automakers, requiring them to produce a minimum percentage of fully or mostly electric-powered vehicles.[5] The government also introduced a dual-credit system, where ambitious com-

panies can earn credits by manufacturing more fuel-efficient vehicles. On the other hand, lagging companies must buy credits from their competitors if they do not meet EV production requirements. This policy encouraged corporations to invest in research and development (R&D) to find ways to produce more fuel efficient vehicles (and sell excess credits), and drove non-compliant manufacturers out of business. Companies were also exempted from a 10% sales tax on NEVs, which accounted for $177 billion of the government economic support that CSIS estimates.

The Current State of the EV Market

By implementing a series of exceptionally effective policies, China established its dominance in EV production and sales. In October 2024, China's share of the EV market share rose to 76%, dwarfing every other country.6 China recently sold over 1.1 million EVs in September 2024, nearly matching the U.S. sales in the entirety of 2023. 7

In particular, automaker BYD stands out, having garnered a 36% share of China's EV8 market and financial backing from Warren Buffett all the way back in 2008.9 The company's best-selling model, the Song, starts at a relatively cheap price of $20k and has many luxury features only seen in far more expensive cars from BYD's foreign competitors. Other notable Chinese manufacturers include Xioami, also known for their smartphones, as well as Nio, which produces more expensive premium models.

Behind Chinese automakers' dominance is a near-monopoly over all raw materials critical to producing EV batteries, which comprise around 40% of an EV's entire cost of production.10 China alone produces a staggering 97% of EV battery anodes and 90% of EV battery cathodes. In addition, two-thirds of EV batteries globally are assembled in China.

A single manufacturer, CATL, especially benefited from generous support from Beijing11 and now controls nearly a third of the global EV battery market. CATL's access to resource-rich land, including the rich Kisanfu cobalt reserve in the Congo and dried-out salt lake beds in China's Qinghai province, combined with unparalleled R&D efforts have put the company at the forefront of battery technology and made competition tough, even for LG, its biggest rival, holding a quarter of the market.

Worker assembles EV car in Rayong Thailand
Photograph by Chalinee Thirasupa/Reuters

The Trailing United States

While China's single-party, centralized government structure facilitates long-term planning and swift policy implementation in the absence of opposition, America's decentralized federalist model and two-party system often make it more difficult to act as decisively or quickly.

The U.S. has been unable to push a comprehensive framework of incentives, including subsidies, to power growth of the domestic EV industry. Even in the rare instances subsidies have been implemented, they

haven't had a large effect. The EV tax credits implemented as part of the 2022 Inflation Reduction Act have proved unable to successfully convince buyers to switch to EVs, and now face scrutiny due to their reliance on ballooning deficit spending.

Many American consumers cite sparse charging infrastructure as a primary reason for not buying an EV. There are only a small number of public charging ports nationwide relative to the U.S. population, and most are concentrated only in urban areas. Concerns over lack of on-the-go charging feed into worries of getting stranded before reaching a destination (commonly referred to as range anxiety).

Legacy American automakers have been hesitant and slow to commit to manufacturing EVs due to low consumer demand and confidence in the states. Instead, Detroit has been pushing forward with their gas-powered cars that made them famous. While this has held up in the short term, this has left the industry very ill-equipped to handle EV production in the long run.

The Broader Implications for the Automotive Industry

Whether U.S. automakers are ready for it or not, EVs are here to stay. Governments around the world recognize the importance of green technology powering transportation, and have started to implement policies to phase out traditional engines and favor electric alternatives. Major players like the European Union (E.U.) and China have set ambitious targets to limit the sale of vehicles powered by fossil fuels in the coming decades.

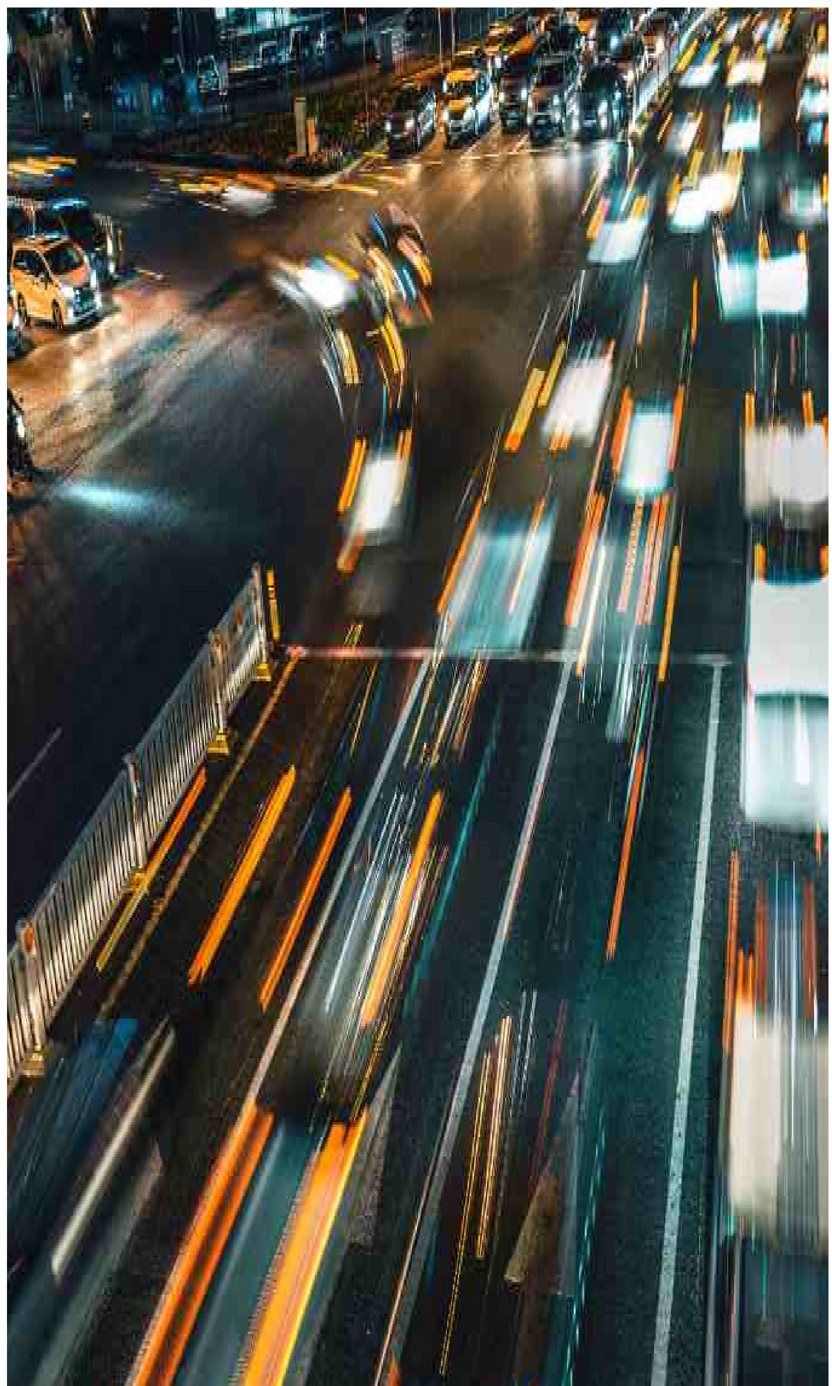
Dominance over the EV market will mean dominance over the entire automotive market, which is bad news for legacy American automakers. For over a century, Detroit has been the epicenter of global car manufacturing, with legacy American automakers like Ford, GM, and Chrysler dominating the industry. The shift to EVs dangerously threatens this dominance.

Ford has openly expressed concerns about Chinese EV manufacturers describing them as among the most serious competitors the company has faced in its storied history. Ford CEO Jim Farley has gone so far as to say that the new competition poses an "existential threat" to the entire domestic automotive industry.

Who will turn out victorious in the race for the EV industry is not exactly clear, but it will definitely be a struggle that decides who does and doesn't go out of business in the industry's next chapter.

Urban traffic in Shanghai, China

Source: 123rf



The Republican Movement Against Wall Street

Source: TriplePundit

Written By
Renee Cai

America depends on the municipal bond market—a vital conduit for financing essential infrastructure such as roads, public transportation, and sewage systems. As a student at Cornell, it's highly likely that even your dorm and classrooms were funded, in part, by these bonds.

This critical and typically stable industry has been shaken in recent years by pointed political policies crafted by Republican-leaning states meant to crack down on major Wall Street firms. G.O.P-led state legislatures have found ways to regulate the municipal finance industry by prohibiting certain banks—often recognizable names—from doing business in their states. Laws passed to undermine Wall Street business often focus on hot-button issues like climate change and firearm rights, and they typically adopt traditionally conservative stances that push back against liberal views. In many cases, these G.O.P policies are intended to pressure Wall Street into backing away from addressing environmental and social issues. State officials passing such legislation are punishing financial firms for their "woke" stances on particular topics.

Much of Wall Street has focused their attention on the blatant "anti-woke" efforts of the Texas government. The Republican stronghold hosts the nation's second largest state population and economy, and remains the top domestic producer of both oil and natural gas. In 2021, Texas enacted a law prohibiting cities, counties and state agencies from having contracts with banks that

consider environmental, social and governance (ESG) factors when making investment decisions. ESG investing takes into account a company's sustainability efforts and policies to address environmental and social issues. The topic of ESG has become increasingly polarized along party lines, with Republicans advocating against usage of the criteria and Democrats arguing in favor. Indeed, a Republican State Treasurer, Marlo Oaks of Utah, recently commented that ESG governance is "Satan's plan." This 2021 Texan law banning ESG considerations in public contracts (known as SB 13) was passed under the pretense of protecting Texas' massive oil and natural gas industries. Some Republican state officials who pushed for the bill have explicitly stated that ESG policies align with a liberal agenda that violates Texan state values. While SB 13 is a notable and forceful law, it is just one of 138 anti-ESG bills filed in 2023 and 2022. Similarly, dozens of these measures seek to block businesses from addressing issues such as climate change, while also targeting other ESG-related topics like abortion rights and firearms. SB 13 has certainly become a model for other Republican-leaning states to craft similar legislation of their own.

In July 2022, West Virginia outright banned five major financial institutions from conducting business in the state. These five firms are some of the most prominent on Wall Street, by the likes of J.P. Morgan Chase & Co., Goldman Sachs, Wells Fargo & Company, and Morgan Stanley. BlackRock, Inc., the world's largest asset manager, was also included on the blacklist. These firms were banned on the grounds that they were engaged in a "boycott of energy companies" and were considered responsible for "categorically limiting commercial relations with energy companies engaged in certain coal mining." The corporations unsuccessfully pushed back against the ruling, with a J.P. Morgan spokesperson describing the decision as "disconnected from the facts." The representative for BlackRock claimed that the company "does not boycott energy companies, and we do not pursue divestment from sectors and industries as a policy." West Virginia also originally expressed intentions to prohibit U.S. Bancorp, but the bank was ultimately erased from the blacklist after it abolished policies which were against financing coal production.

Less than a month later, Texas banned 10 large banks and 348 investment funds from operating in the state, accusing them of similarly boycotting energy companies driven by fossil fuels that are key to a healthy Texan economy. The firms again unsuccessfully pushed back against the law and attempted to demonstrate that they actually invested tens of millions in the fossil fuel industry. In an official statement, Texas comptroller Glenn Hegar said that "a vibrant Texas oil and gas industry is a stabilizing force in today's economic and geopolitical environment," and that his "greatest concern" is environmental activists in D.C. claiming that the economy can fully eliminate dependence on fossil fuels.

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Just a day before the Texas ruling, Floria banned its $185 billion pension fund from including ESG factors in investment criteria. Around this time, the attorneys general of 19 Republican-leaning states sent a letter to BlackRock accusing the corporation of prioritizing its "climate agenda" over the best interests of beneficiaries in some of its retirement funds.

Earlier this year, the Texan attorney general specifically banned Barclays from the state's municipal bond business because of the firm's supposed discrimination against the fossil fuel industry. Evidence of the bank being a "fossil fuel boycotter" was its participation in the Net Zero Banking Alliance (N.Z.B.A), a U.N.-convened group of 137 banks across 44 countries committing to net-zero greenhouse gas emissions by 2050. The N.Z.B.A included almost all major firms on Wall Street, such as J.P. Morgan, Goldman Sachs, and Morgan Stanley. The attorney general, Ken Paxton, stated that by passing such a ban, he was protecting key industries from ESG policies that "would weaponize the powerful financial industry against the interests of this state." His official statement announcing the ban also proudly noted that S&P Global Inc., a crucial player in the bond business, prohibited consideration of ESG criteria after an investigation made by Paxton into the firm (he coined this a win for Texas against "improper political activism by financial companies"). Banning Barclays on the grounds of its participation in the N.Z.B.A. sent shock waves throughout Wall Street, with many firms debating whether to pull out of the alliance in order to maintain business not

only in Texas, but in other GOP-aligned states that may follow in the Lone Star State's footsteps.

In other major news this year, West Virginia blacklisted four more banks that similarly "engaged in boycotts" of the fossil fuels industry. Some of these were major banks, such as Citigroup Inc. and TD Bank, NA. The firms once again attempted to demonstrate the inaccuracy of the accusation. Both banks and another on the blacklist, HSBC Holdings plc, were in the top 12 largest lenders to fossil fuel projects around the world between 2016 and 2022. The other blacklisted, Northern Trust, argued it had around $52 billion in the "traditional" energy sector and served over 20,000 oil, gas and mineral interests in the U.S. and Canada. Nevertheless, West Virginia enacted the ban.

Regulators and industry observers are currently focusing on Louisiana, which ultimately approved NZBA members to conduct business in the state over the summer—but only "under a yellow caution flag." Louisiana lawmakers are currently considering prohibiting banks from working on government contracts that discriminate against firearm entities. The bill, already passed by state lawmakers, currently sits on the Republican governor's desk, awaiting his signature. Louisiana's attorney general has also already attempted to blacklist six of the nation's largest banks because of their seemingly restrictive policies against financing gun manufacturers and the fossil fuels industry, but state legislators argued they would have to interview representatives from the firms before carrying out such a ban. In 2018, Louisiana blacklisted Citi and Bank of America because both companies refused to do business with certain firearms manufacturers. They cited that Citi, for example, refuses to work with gun sellers that sell weapons to those who don't pass a background check, sell weapons to people under 21 years old, and sell military-style weapons. In 2021, Louisiana also had considerable doubts about J.P. Morgan managing the refinancing of $700 million worth of state debt after similar concerns about its company policies against gun manufacturers, and passed the deal to Wells Fargo instead. Interestingly, a year later, state officials transferred hundreds of millions of dollars of business from BlackRock to J.P. Morgan, citing concern over BlackRock's policies against the oil and gas industry.

Although such bans may provide political advantages, they also risk significant economic costs. While Texan state officials claim that the legislation supports the economic well-being of the state, evidence suggests otherwise. In July, researchers at University of Pennsylvania's Wharton School estimated that Texan municipalities and other public entities paid between $303 million and $532 million more in interest on the funds they borrowed during an eight-month period after SB 13 was passed. This would make basic economic sense, as the removal of several large banks from the market results in reduced competition and increased fees. The Texas Chamber of Commerce conducted a recent study concluding that local municipalities have paid $270 million in higher annual costs since SB 13 (the Texan anti-ESG law) was enacted. While this estimate is lower than that of Wharton's, it still points towards possible economic harm resulting from the bans. Several state officials have also voiced concerns. Houston City Controller Chris Hollins stated that more bans like these would "tarnish our reputation as a state that's open for business and destroy what we know as the Texas miracle," as well as damage "our ability to secure funding for crucial infrastructure investment at the best cost for taxpayers. It means higher borrowing costs and higher property taxes…" State representative Salman Bhojani said, "Texas is the eighth-largest economy in the world; how do you think we will continue on this trajectory if we interfere and limit access to capital?" A former Texan staff official said even more plainly, "eventually it's going to bite us in the butt if we continue… our bank list is getting short." Louisiana bans have received similar criticism, with the state's senate president voicing that his "bottom line" is the increased economic burden falling on taxpayers, who the state officials "cheat" because they knowingly "don't get the lower rate" of debt that is possible. It seems like perhaps this anti-ESG legislation might be affecting local towns and state economies more than large Wall Street firms.

Several have filed lawsuits against the anti-ESG laws. Most recently, Texas was sued by the American Sustainable Business Council, a network of over 200,000 businesses advocating for a "just and sustainable economy." The business advocacy group claims that SB 13 violates the first and 14th amendments of the U.S. Constitution. It argues that the law infringes on the companies' right to free speech, is a form of arbitrary enforcement, and fails to provide fair notice to blacklisted banks of their prohibition. Texas comptroller Glenn Hegar, named as a defendant in the lawsuit, accused the council of supporting a "radical environmental agenda" prompting companies to consider politics over

its shareholders. He argued that repealing the ban would force Texan taxpayers to invest "in a manner inconsistent with their values and detrimental to their own economic well-being." We await the outcome of this trial, along with several others. This includes a 2022 lawsuit filed by a Kentucky banking association suing the state over a law that granted the attorney general the right to conduct screenings of the investment policies of financial firms for ESG considerations. Some laws have already been recently struck down or put on pause. In August, a U.S. District Court of Missouri ruled that two of the state's anti-ESG laws regarding brokers and investment advisers were unconstitutional. In May, a judge in Oklahoma suspended the state's anti-ESG law after members

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of a public pension fund sued the state.

Growing polarization and increasingly extreme positions among Republicans and Democrats are undermining major financial firms as well as communities in Republican-led states. We are witnessing the emergence of a GOP movement

"Growing polarization and increasingly extreme positions among Republicans and Democrats are undermining major financial firms as well as communities in Republican-led states.

against Wall Street and a complitcated contest of special interests and political biases. Recent bans and lawsuits demonstrate the tense and conflicting intersections of playing politics and pursuing economic growth for both the states and the banks. Companies have already, or are considering, changing their behavior to accommodate Republican political interests and keep business in important states. Very recently, all major Wall Street firms left the Net Zero Banking Alliance. However, they have expressed interest in continuing engagement with the Glasgow Financial Alliance for Net Zero, the U.N.-affiliated umbrella organization for N.Z.B.A. and other alliances. It will be important to monitor the activity of Republican-leaning state legislatures and officials, as well as pending lawsuits against bills passed. Each law passed or struck down sets an important precedent for the rest of the country. The short and long-term reactions of financial firms to these bans will signal to states and investors how legislative aggression will be resisted or accepted. This campaign against Wall Street will likely persist and may only strengthen under a second Trump presidency and with multiple levels and branches of government dominated by conservatives. Political polarization is astonishingly impacting what might appear to be the most apolitical financial industry, and the very one responsible for providing basic needs and services to all Americans.

Why Not More Renewables? How Public Utilities Stall Net-Zero Goals

Written By
Abe Litvak

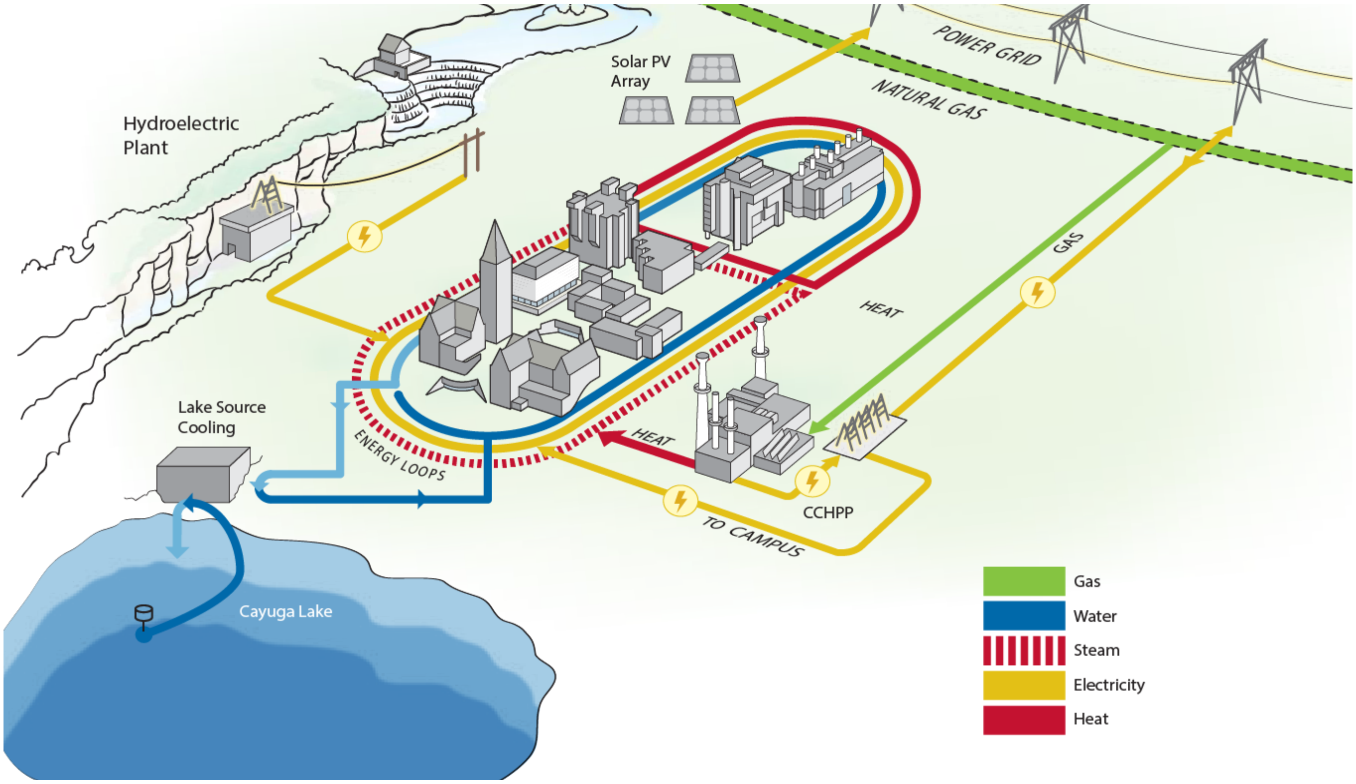
Despite the intensifying global push for net-zero goals, achieving genuine carbon neutrality remains far from straightforward—even for resource-rich institutions like Cornell University. A wide array of resources are required for this transition, including land, water, technology, ambition, and—most importantly—capital. Luckily, these are all plentiful here at Cornell University, but despite many impressive initiatives like district heat, lake cooling, and hydroelectric power, Cornell University still emitted 185,469 Metric Tons of carbon emissions in 2023. Cornell has reduced its emissions by 42% since 2008, so why hasn't it moved faster toward net-zero when it appears to have all the necessary resources?

While Cornell has repeatedly set the standard for sustainable practices among its peers, Cornell and virtually every large institution in the United States have still trailed behind countries like China, Germany, Denmark, and the Netherlands in the past two decades. Rather than focusing on specific technologies Cornell has employed to reduce its carbon footprint, examining the operational and regulatory framework within which large energy consumers function reveals the factors ensuring a rapid transition to renewable energy remains elusive.

"Cornell has reduced its emissions by 42% since 2008, so why hasn't it moved faster toward net-zero when it appears to have all the necessary resources?

Public utility companies like NYSEG (New York State Electric and Gas) are essential in providing consistent and affordable energy to institutions, corporations, and residential communities. Unlike with single family homes, large institutions typically enter long-term, binding contracts with their local public utility company who advertise stable supply and low average costs. These contracts frequently lock in traditional electricity generation sources like natural gas, making the transition to renewables financially and logistically challenging. For institutions like Cornell University, which has set ambitious net-zero targets, reliance on energy supplied under such contracts creates obstacles in adopting renewable sources quickly. In practical terms, Cornell cannot exercise authority over NYSEG's generation of electricity, leaving the university dependent on the utility for the bulk of its power needs outside of heating and cooling.

Variable costs of renewable energy like solar and wind are essentially zero because they only require occasional maintenance. However, the fixed costs (including integration costs) associated with getting renewable energy sources up and running are substantial.



Infographic of Cornell University Campus Energy Systems

Source: cornell.edu

Trade tariffs that Biden placed on the importation of photovoltaic cells from China, who produce by far the cheapest and most efficient ones, have further raised these fixed costs. Therefore, in the short run, renewing contracts with public utilities remains more cost-effective compared to building renewable projects that require infrastructure, ancillary services for times of low supply, and stable backup sources ready to power up when the sun goes down and the wind does not blow.

While many innovative solutions are on the horizon, such as large-scale batteries or using a charging network of EVs to regulate grids, a major difference that has enabled other countries to surpass the U.S. is how their public utility companies operate. Public utilities are one of the few federally regulated monopolies in the U.S. for two main reasons. One, power is an essential commodity where supply must meet demand at every instant. Two, competition would be impractical in the distribution and transmission of electricity. A consequence of public utilities having complete market power is that consumers have no say in determining what generation source (natural gas, renewables, or nuclear) the electricity they are paying for is coming from. Consumers do not even know what they are paying for as they do not face the wholesale market price of the electricity they consume. Wholesale electricity prices are extremely volatile due to intraday demand fluctuations and seasonal weather changes. For example, nighttime electricity prices are much, sometimes 100x, lower than peak demand prices. Therefore, to ensure stable revenue, public utilities charge a marked-up electric bill — raking in monopolist profits. The Chinese government has used national funds to invest in public infrastructure projects such as large-scale wind farms, solar farms, and solar thermal power plants. Only with government intervention was China able to overcome the massive fixed costs in developing new technologies, supply chains, and integration strategies.

NYSEG is committed to transitioning to renewable energy, stating on their website they hope to reach 70% of electricity from renewable sources by 2030, 100% zero-emission electric grid by 2040, and 100% economy-wide net zero carbon emissions by 2050. These goals are only a few years behind Cornell's net-zero goals which comes at no surprise given the link between the public utilities and large energy consumers like Cornell. Perhaps, if this link, Cornell's contract with NYSEG, would have been severed, Cornell would be net-zero today.

Technology has reached a point where cutting out emissions is expensive, but achievable with the right policy in place. Ultimately, a net-zero future is essential both for mitigating climate change as well as delivering cheaper, more abundant energy.

Lessons From an Entrepreneur

Written By
Renee Cai

"When you are ready to start a company, let me know," said Sara Schmitt to her friend Amarildo Gjondrekaj outside of Sage Hall as they prepared to graduate from Cornell's MBA program just five years ago. The two had become close friends during their time in the SC Johnson College of Business, but went their separate ways after graduation: Schmitt to Amazon, and Gjondrekaj to Mastercard. Then, last year—out of the blue—Schmitt received a call from Gjondrekaj. He told her: "Hey, I'm ready, and I have the idea. Let me pitch it to you."

The idea was to build a fintech platform to support international students and workers in building their financial lives in the US. This idea turned into Adro, a full-fledged start-up, with Schmitt as COO and Gjondrekaj as CEO. Adro has experienced significant growth and success since it launched just a couple months ago. While Schmitt carries herself with the confidence and maturity one associates with an experienced entrepreneur, her journey into the world of entrepreneurship has only just started. She's had what she aptly terms a "non-linear" career path, from studying poetry in college to working in the healthcare IT industry in Wisconsin. She's gleaned many insights across her varied and inspiring professional trajectory. I had the opportunity to interview her early in November of 2024, and here are my main takeaways from our conversation in the form of lessons when it comes to entrepreneurship.

Study poetry. Ok, maybe not seriously. But Schmitt studied poetry and political science during undergrad at Allegheny College. She's used her poetry degree at all of her jobs, like having to write a poem for marketing purposes. On a deeper level, Schmitt believes that studying poetry "forces you to be ruthless with language" and "pair down your ideas and thoughts." She's been able to utilize her degree in "keeping things succinct and simple" and understanding "how to make things understandable for different audiences." Effective marketing is always important for a successful business, especially for start-ups. Take the time and develop the skills to advertise your new product in an accessible way that engages those with even the busiest lifestyles. You want people to pause what they are doing and hear what you have to say, scroll through your website, tell their friends, and buy your product.

You don't need to know you want to be an entrepreneur. In fact, it's probably better if you don't know. Schmitt believes that in this country we idolize this figure of the solo, successful entrepreneur—the young person who has a vision early on in life and executes it. In her words, it's a "very American ideal." But she believes it's important to recognize that "most successful founders are those who worked at a variety of companies, small and large, public and private, and have lots of experience knowing how culture is built and how companies scale." Understanding how business operations work and having previous hands-on management experience can be incredibly helpful when running a start-up. Schmitt herself didn't always know she wanted to be an entrepreneur. She was a humanities double major in undergrad, and after college, she was a media planner for brands like AT&T and Cadbury in NYC. She then relocated to Madison, Wisconsin and worked for Epic Systems Corporation (EPIC), a software company that manages records for 85% of the American healthcare system. EPIC would grow from 3K to 10K employees in the decade she was there, teaching her a lot about "how a company scales" as well as project management. Schmitt would then go on to pursue an MBA at Cornell, work at Amazon, and then finally—after all of this—become a fintech entrepreneur. Schmitt believes that the wide array of skills she's developed across her career path have increased her chances of success navigating the start-up world. She knows how HR works, and how to build new divisions in a company. She is also already familiar with developing new tools and processes from her prior roles. So, from Schmitt's POV, corporate experience can be helpful to have under your entrepreneurial belt. It's useful to accumulate exper-

> After all, successful start-ups effectively address problems faced by consumers. 'A very strong founder story is when you know an industry or problem space really well from having worked in it and having lived it.'

tise in a specific industry or gain exposure to multiple. After all, successful start-ups effectively address problems faced by consumers. "A very strong founder story is when you know an industry or problem space really well from having worked in it and having lived it."

Take time to build your network. You never know who you may lean on in the future. Another benefit of becoming an entrepreneur later in life is having built a strong network to tap into when you do have to found and run that company. Schmitt explicitly states that Adro would not have been this successful if she started the business in her twenties without the network she has now. For one, she never would have met Gjondrekaj at Cornell, and it was her manager at EPIC who pushed and supported her to get an MBA in the first place. But even after founding Adro, Schmitt frequently finds herself calling on ex-colleagues, friends and advisors for advice. According to her, "as a start-up you can't have every function and every division in house with a giant support staff. You have a lot of fractional helpers and need advice and guidance from others." She's asked friends for accounting and compliance advice, for example. The main reason she loved Cornell's Johnson MBA program was because it felt "very collegial and community-oriented." It wasn't "hotly competitive," and she met people she would "love to work with again." It's always fun for Schmitt to reconnect with her classmates and "learn about what they've done and how [they] can all help one another." Schmitt and Gjondrekaj were also strategic in choosing NYC as a home base for Adro because of the unparalleled opportunities for networking and events in the city.

Feedback. Feedback. Feedback. It's equally as important to reach out to your very own customers for advice. When running any company, it's crucial to identify elements of the product sold that resonate most with users in order to more effectively tailor marketing campaigns and build better features. For a start-up, this is especially key to developing a successful edge and carving out a niche in the marketplace. Schmitt has found herself constantly talking to current and potential customers, from one-on-one interviews to tabling at countless universities. She would ask college students questions like, "How have you signed up for a checking account and a credit card? If you haven't, why not? If you have, why did you go about the process the way that you did?" In her words, "it's always a learning process with a start-up—you have hypotheses about product features that will be the most beneficial, but it's your customers who are actually the ones to tell you. And generally, people are happy to talk." For example, from speaking to consumers, Gjonderkaj and Schmitt have realized that one much appreciated Adro feature is being able to sign up for an account from any home country, making it much easier to get started once landing in the states.

Get used to making tough decisions. As you gather feedback from users and your start-up grows, you'll realize that consumers want different things. This means that you will have to make tough choices about what features to prioritize building out and which ones to say "no" to. According to Schmitt, this is "true in large, established companies, but especially in start-ups because you only have so many engineers, so much support staff, so many founders to pick up the slack." It's difficult to say "no" to something if you know that it would be useful for someone out there or even remember the person who specifically asked for the feature. Schmitt says, "no matter what you choose, you are gonna let someone down." Sometimes, you may even have to make the difficult decision of considerably changing the direction of your new company. Adro hasn't experienced this yet, but "drastic pivots" are common in the start-up space. When marketing your start-up, "you have to position yourself, but to position is to sacrifice. While you're enthusiastically saying 'yes' to something, you are also saying 'no' to something else."

Do your research. Schmitt and Gjondrekaj thoroughly vetted their idea before officially launching their start-up. It's important to take the time to conduct tremendous research and test out your idea before bringing it out into the open. Schmitt also believes it's crucial to

Sara Schmitt, Adro COO, smiles in headshot

be open to feedback during this initial period of discovery and iteration. The more effort you spend trying to find the perfect problem for your start-up to address, the increased chances of success you'll face in the future. Schmitt talked to countless college students to get a better understanding of the challenges they faced and potential solutions, which, in her words, "set [the pair] up for a relatively smooth launch."

Embrace uncertainty. There is only so much you can control when it comes to launching a start-up, especially in a field like fintech. Usually, the only thing you can be certain of is your desire to see your company grow and succeed. Schmitt admits that she's not sure what the future of Adro exactly holds. She knows that they started with core banking products like checking and savings accounts, and basic financial tools to help people get paid, spend money and cover basic living expenses in the US. At the moment, the pair is shifting focus to how Adro can help people "earlier in the process" and more seamlessly move money internationally. They are also looking to help people coming to the state for reasons other than school, such as work. But the field of fintech is changing, and who knows what technologies might emerge in the next few years that Adro can utilize. Schmitt indeed comments that there is "so much change happening in the fintech space." She jokes that the "five year plan" on the typical corporate slideshow is always evolving and changing for a start-up. Despite all of the uncertainty, there are some trends that the entrepreneur predicts we'll see in the fintech space over the next few years. This includes increased focus on ways to facilitate efficient money transfers across country borders. According to Schmitt, we already see countries like those in the EU beginning to focus on making possible instant money movement. She believes that this is "something more customers will demand over time" and financial entities will ultimately have to respond to the pressure. From Schmitt's POV, there's "no reason with the technology that we have today that these transfers can't be immediate other than there are a lot of intermediaries involved that want to profit and slow down the process." Another trend she believes in is continued growth in digital currencies. In her words, there are "likely going to be more banks or governments who are interested in using these at some point as a tool they can use to facilitate money movement and increase transparency in the chain of control of currency." Finally, it's important to note that regulatory bodies are still adapting to the changing landscape of the fintech industry. It's difficult for legislatures to fully understand the space as more and more innovations become available, and tricky for them to "create laws to control and to regulate it in ways that are actually successful." If you're founding a start-up in any kind of up-and-coming industry, it's good to recognize that it's "always a problem when innovators are ahead of the regulators and regulators are trying to catch up, which is messy and illuminates problems to sort out."

Stay up to date with current events. Before our interview a little reminder popped up for Schmitt to "review a specific piece of legislation on data privacy that's been working its way through the New York Assembly." Every time she reads an article and believes that she should be keeping track of whatever thing, she sets reminders for herself. Keep tabs on anything that could be relevant to your start-up and impact its indust-

ry. Data rights for consumers have been laid out pretty clearly in the financial services industry and easy for Adro to navigate, but still Schmitt "always keeps an eye out for changing legislation, especially what's happening in the EU (they tend to be ahead of the US)."

Lead with honesty and openness. "Tread lightly." As a senior leader at a start-up "you have to be cognizant of the fact that you have a lot of employees looking up to you and looking at the way you act and react, and believing that is the way it should be for the company," says Schmitt. Every decision a leader makes contributes to the tone, structure, and culture of the company. Good leaders make it clear when they don't know something—that they are just testing out a hypothesis—to make sure people below them don't just blindly follow their lead. This helps others feel comfortable sharing their opinions and expertise. Early in your start-up journey, you'll find that you bring people onto your team because they have expertise that you don't. As Schmitt says, "we all have blind spots. You are all gonna have to work together regardless of your title to get things done. So you need to have people who are comfortable speaking up and also need to make the environment comfortable for people to say 'I disagree with that and I have experience that suggests otherwise.' We want and need to hear that." It's important to rarely say that "this is the way it must be" unless it's regulatory. Otherwise, in Schmitt's words, "nothing is set in stone." The entrepreneur describes her leadership style and company culture as very open and honest. "What you see is what you get. We don't dress a certain way for certain people or act differently. We are ourselves through and through and we hope our employees feel comfortable bringing that to the office." Lastly, remember to foster a collaborative team culture. As Schmitt enthusiastically says, "Let's figure it out together. Whoever has the best idea wins. It's not that whoever has the biggest title wins."

Running a start-up is difficult. You have to put energy into developing relationships, researching your idea and the marketplace, iterating your product and advertising it. You need to pay constant attention to changes in the industry and be conscientious of your actions and the kind of company you want to develop over time. You're going to have to make tough decisions and deal with the fact that most of the time you probably don't really know what you're doing. But have confidence in yourself and in your vision. If you lead and innovate in an authentic way, you will inspire and attract people, and ultimately your own success.

Schmitt pictured alongside Amarildo Gjondrekaj, Adro CEO

Revolutionizing Grading: Modernized Education via GradeWiz

Co-Founders of GradeWiz: Aman Garg (Left), Max Bohun (Right)

Written By
Sam Yun

What is the most glaring problem in education right now? For Cornell students Max Bohun and Aman Garg, it's grading. Calling for a modernized approach to teaching, they value personalization over standardization–where the fundamental relationship between instructors, students, and knowledge is redefined. Enter GradeWiz, a groundbreaking AI-powered platform seeking to transform grading into a streamlined, more effective process. GradeWiz tends to the endless workloads professors face – from filing through stacks of papers requiring grades to providing students with detailed feedback – without taking several weeks. Co-founded by Bohun (CEO) and Garg (CTO), the platform addresses inefficiencies in traditional grading systems, enabling instructors to provide students with more detailed, actionable feedback instantly.

The idea for GradeWiz came when Bohun and Garg were discussing the tremendous grading burden TAs and Professors at Cornell face. They realized the issue is two-sided: students wait a long time to receive feedback, and when they do it is often vague like a ticks on a rubric. Garg recognized the potential for AI to address these issues and knew this was something they could tackle. Together, they envisioned a system that would streamline grading, hoping to improve the teaching and learning experience with enhanced feedback quality.

How GradeWiz Works

GradeWiz operates intuitively, simplifying tasks on either end for instructor and student. Students log in, access assignments, and submit their work–GradeWiz allows for handwritten, typed, and tablet-based work. Once uploaded to the platform, the AI immediately processes the submissions, providing teachers with an initial evaluation. By default, the instructor retains full control, and at this point, they may review and adjust the grades to their preference. This stage allows them to ensure accuracy and fairness before publishing the grades to their students.

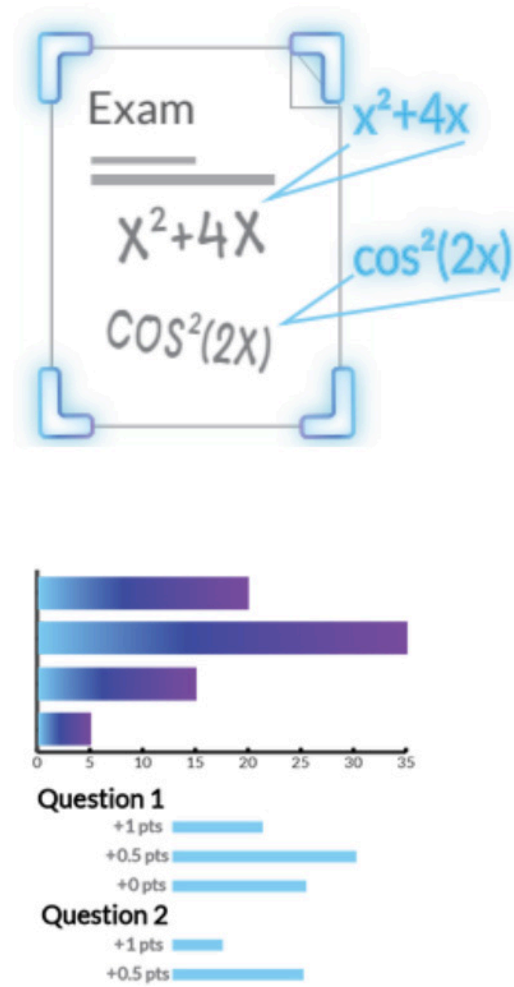
While GradeWiz mirrors the usability of existing platforms like GradeScope, GradeWiz hosts a multitude of standout features. The system offers regrade requests and AI-assisted rubric generation, which further streamline the grading setup procedure. The AI regrade function enables instructors to tweak grading parameters based on specific preferences, similar to how a professor would instruct a TA. For example, they can choose to have the AI penalize certain responses more heavily, or reward more points for keywords or phrases. “There’s a lot of ways in which instructors ‘teach’ the AI their grading style,” says Bohun. “It’s still very involved on the educator’s side.” GradeWiz has been seeing significant traction since its inception. After initial pilots with three professors, the team continuously refined the model based on feedback. Improvements to the user interface and overall functionality were the result of a targeted outreach strategy, with cold emails asking professors across different campuses whether they would be interested in testing the platform. Bohun and Garg dedicated their summer to full-time development, supported by a team of Cornell students and Ukrainian developers. Today, GradeWiz is utilized by 40 instructors, grading the work of more than 3,000 students across ten institutions. Based on reports, GradeWiz reduced grading time by 60% on average, with 70% of students using it reporting getting more detailed feedback.

> ***“Today, GradeWiz is utilized by 40 instructors, grading the work of more than 3,000 students across ten institutions. Based on reports, GradeWiz reduced grading time by 60% on average, with 70% of students using it reporting getting more detailed feedback.***

The Future of GradeWiz and AI

GradeWiz exemplifies how AI can enhance, rather than replace the “human touch” in education. Bohun and Garg emphasize the platform’s augmentative role in which instructors have the final say and feedback remains individualized.

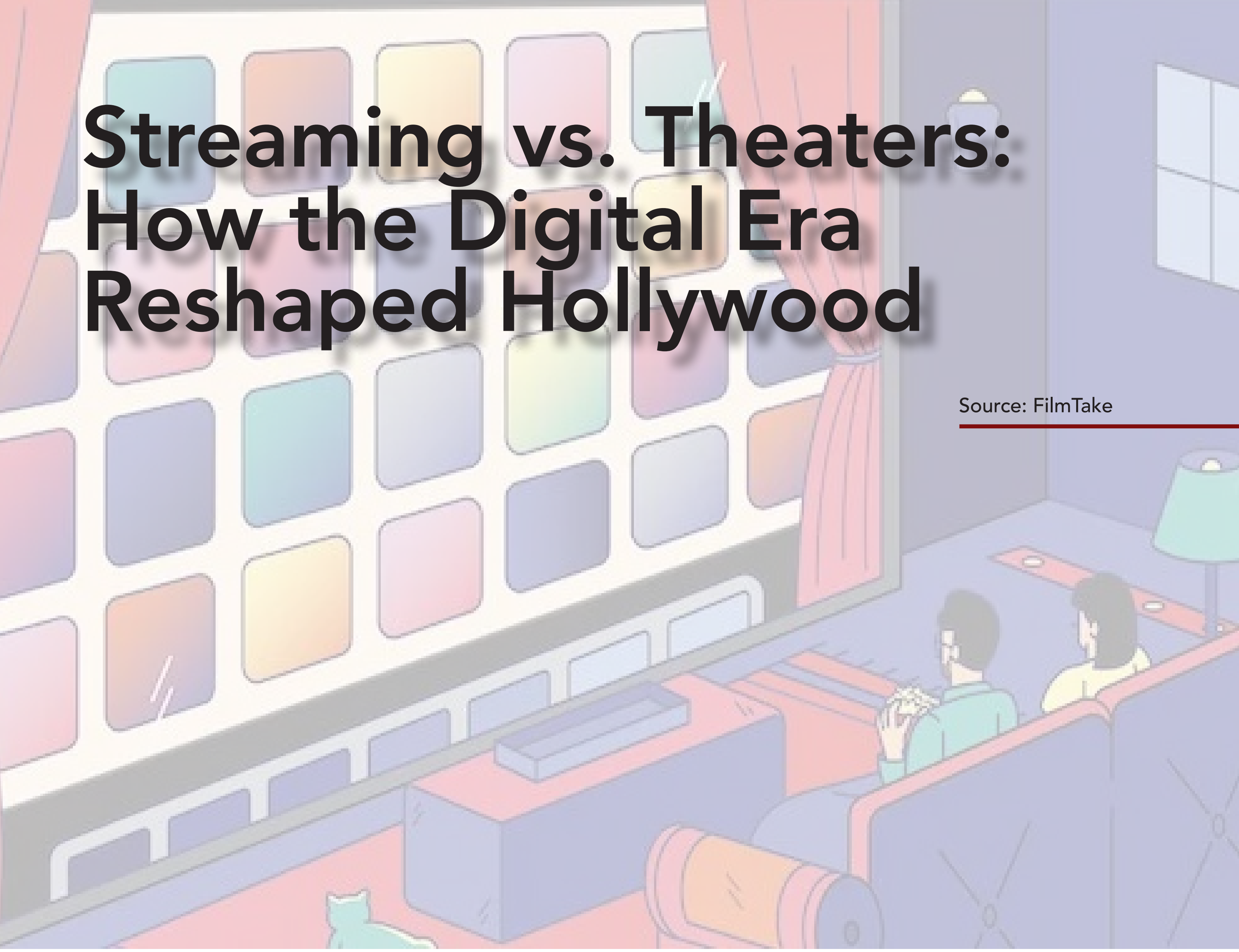
Looking ahead, GradeWiz aims to expand its user base to 10,000 professors in as little as a year, supported by fundraising efforts. Following their leave of absence from Cornell after this past semester (Fall 2024), Bohun and Garg are dedicated to the increasing success of their platform. They have joined Y Combinator, a leading startup accelerator for entrepreneurs. Now that their efforts have gone completely full-time, they strive to fulfill their vision for a future of education that is both personal and powerful. “We think that we have something instructors love using and can benefit a huge amount of instructors and students. So we want to spend more time on this for GradeWiz to maximize our impact.” As AI continues to revolutionize industries, it’s truly remarkable to watch GradeWiz blend innovation with a deep-rooted understanding of academic needs.



Work submission, rubric generation and grade review visualized

Source: www.gradewiz.tech

Streaming vs. Theaters: How the Digital Era Reshaped Hollywood



Source: FilmTake

Written By
Sam Yun

What was the last movie you watched in a theater? Consider the last movie you enjoyed from the comfort of your home. Did the theater vs. home experience come with a difference in your level of enjoyment? Now take some time to review your means of media consumption, from your favorite action flick to that 9-season long TV show you're still binging. Whether you are aware of it or not, the movie industry today is at a crossroads. A $3 billion drop in U.S. theater revenues from 2023 to 2024 underscores the ongoing turbulence caused by streaming services and pandemic-induced disruptions. Once a staple of social life, the moviegoing experience feels like an entirely new concept, with the convenience and affordability we enjoy with at-home streaming. The digital era has fundamentally changed the movie industry in the past 5 years alone, with implications like a shift in consumer patterns, new business strategies and lingering pandemic effects. Is the cinema experience dying, or simply evolving?

Despite the occasional hit movie, the big screen has seen a significant decrease in overall attendance. In the past five years, many of us might have turned out for box-office giants like Spider-Man: No Way Home or Avatar: The Way of Water, but you can easily list on two hands the films that reached that level of success. Per capita, moviegoing in the U.S. dropped to fewer

than two visits per year by 2024—a milestone once projected for 2035.

The main culprit? Inflation. Movie tickets are not exempt from the growing list of goods whose prices have risen. Rising ticket prices have sharply reduced casual outings. As of 2024, the average cost of a U.S. movie ticket hovers near $10, making streaming subscriptions a more cost-effective choice for families and individuals alike. Similar to groceries, a trip to the movie theater can easily leave a sting, or rather hole, in our wallets. Analyzing specific demographics reveals the impacts of these developments. . Firstly, movie theaters face a generational divide. Older audiences, typically less tech-savvy, have gravitated toward streaming as an accessible alternative. Meanwhile, younger demographics still venture out for "event" films, particularly those with strong cultural relevance.

The COVID-19 pandemic inflicted lasting damage on the movie industry. With theaters not making business for months, studios found refuge in streaming, a shift that permanently altered viewing habits. The pandemic established at-home viewing as a norm, a necessity even, for entertainment in the midst of quarantining or social distancing. Platforms like Netflix saw viewership spike as people sought after their screens. Post-pandemic, these habits persisted. Today, studios experiment with shorter theatrical windows or hybrid releases to pull in their fragmented audiences. 2021 saw Spider-Man: No Way Home became the first pandemic-era film to surpass $1 billion globally. This could have been a triumphant signal to a return to normalcy. Unfortunately, the overall number of big films has only decreased, with 2023 producing only 4 one billion-dollar movies compared to 11 in 2019. This can only mean one thing: in addition to having the means, people need a good reason to go see a film in a theater in an economical climate that favors home entertainment. This is called an "event" film(s).

> ***"Unfortunately, the overall number of big films has only decreased, with 2023 producing only 4 one billion-dollar movies compared to 11 in 2019.***

A key example is "Barbenheimer", which was nothing short of a cultural phenomenon turned into a cinematic marvel. The term refers to the combination of simultaneously released films Barbie, directed by Greta Gerwig, and Oppenheimer, Christopher Nolan's latest project. The films were hugely different in subject matter, but the juxtaposition of their releases resulted in widespread anticipation. Up until the dual release, the films seemed in competition with each other, as fans across social media debated which movie would perform better. This competition, however, would become a collaboration before everyone's eyes. Barbie's colorful visuals and social commentary became the perfect complement to the dark, historical biographical drama that was Oppenheimer. Social media only fueled the phenomenon with memes, and a large percentage of people saw not just one, but both films, discussing the best viewing order. Enthusiasm and interest across the internet boomed as the numbers continued to astonish.

The summer 2023 box office glory of "Barbenheimer" should be a brainstorming ground for any success-seeking movie producer or executive. But why is this phenomenon so unprecedented and distinct in its execution? Given that the films collectively made $2.3 billion in revenue in the box office, shouldn't companies be rushing to orchestrate the next joint juggernaut release? The answer lies in the very content we are consuming. Barbenheimer's success may allude to a future where only message heavy, culturally resonant films can sustain theatrical runs. Furthermore, rather than asking why people are less interested in going to the movies, it's more significant to assess Hollywood's number one crutch in today's movie scene: remakes.

Audiences have become fatigued by endless remakes and sequels. How many people do you know who are counting down the days until the release of Pixar's Toy Story 5 or Disney's Snow White? Despite commercial success, these films are often criticized for feeling repetitive or uninspired. Conversely, innovative, socially relevant stories, like A24's 2022 film Everything Everywhere All at Once, earned widespread acclaim; the film's success reveals there is huge potential in breaking away from trends and the formulaic movie structure. Experts argue that Hollywood's reliance on remakes and sequels undermines creativity. The box office is increasingly dominated by familiar franc-

Cillian Murphy in *Oppenheimer* and Margot Robbie in *Barbie*

hises, namely Marvel, DC, and Disney live-action adaptations, which leaves little room for original or indie films.

Here is where streaming enters the picture: the reason behind the onslaught of remakes and sequels. The rise of streaming has dramatically altered Hollywood's business model. Companies like Netflix, Disney+, and HBO Max have shifted the focus from box office revenue to subscription-based profits, offering convenience and personalization. Netflix, the industry pioneer, boasts more than 230 million global subscribers as of 2024. Disney+, with its family-friendly catalog, has reached nearly 160 million. HBO Max has seen success in an established niche with exclusive Warner Bros. content. Each platform employs unique models: bingeable series, household name franchises, and hybrid releases. The throughline that unites all of these strategies is viewer convenience; streaming's iron grip on at-home entertainment has proven to be almost paralyzing for the movie industry. Pre-pandemic, theaters followed a 90-day exclusivity window before movies could be purchased digitally for home video or streaming. One of streaming's most significant impacts, however, has been the erosion of the former release strategy. Films like Marvel Studio's Black Widow were released simultaneously in theaters and on Disney+, which reflected new limitations shaped by the pandemic. While this model broadened access, it also stunted box office earnings and raised conflicts between studios and theater chains.

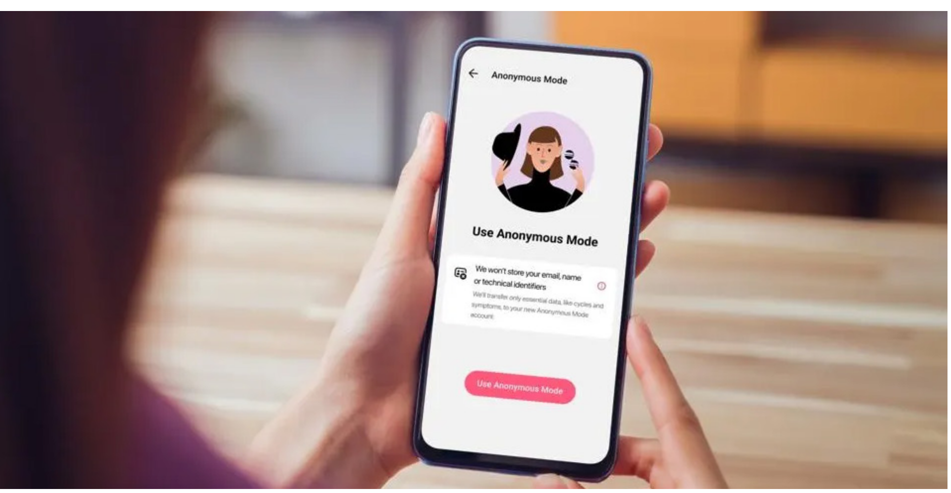
The final question: is the moviegoing experience dying, or is it simply evolving? The rise of streaming has given way to both new challenges and opportunities for the industry to navigate. Theaters are still shying from pre-pandemic heights, yet their social and cultural presence remains undeniable. Devoted moviegoers can rest assured that this is not an indication for the end of Hollywood; the magic of cinema can endure against new methods, given that it can persist these changes. For audiences, the question is no longer "theaters or streaming?" but rather, "How do we want to experience stories in the digital age?" As Hollywood continues to navigate the highs and lows of this new terrain, one thing remains certain: cinema's power to captivate and connect will remain intact, regardless of the medium.

> ***"Devoted moviegoers can rest assured that this is not an indication for the end of Hollywood; the magic or cinema can endure against new methods, given that it can persist these changes.***

Data For Profit

Written By
Akshitha Kumar

Data has swiftly emerged as the world's most valuable commodity, yet consumers often remain in the dark about how their personal information is collected, shared, and monetized. In the case of Flo Health—an app trusted by millions to track sensitive health data—revelations of undisclosed data sharing have sparked fresh debate over privacy rights, regulatory accountability, and corporate ethics. While Europe's General Data Protection Regulation (GDPR) sets a high bar for transparency, the United States and other nations grapple with inconsistent legal frameworks, leaving firms and individuals navigating a patchwork of policies. At stake is not just user privacy but also public trust in an era where profit-driven decisions can compromise fundamental rights.

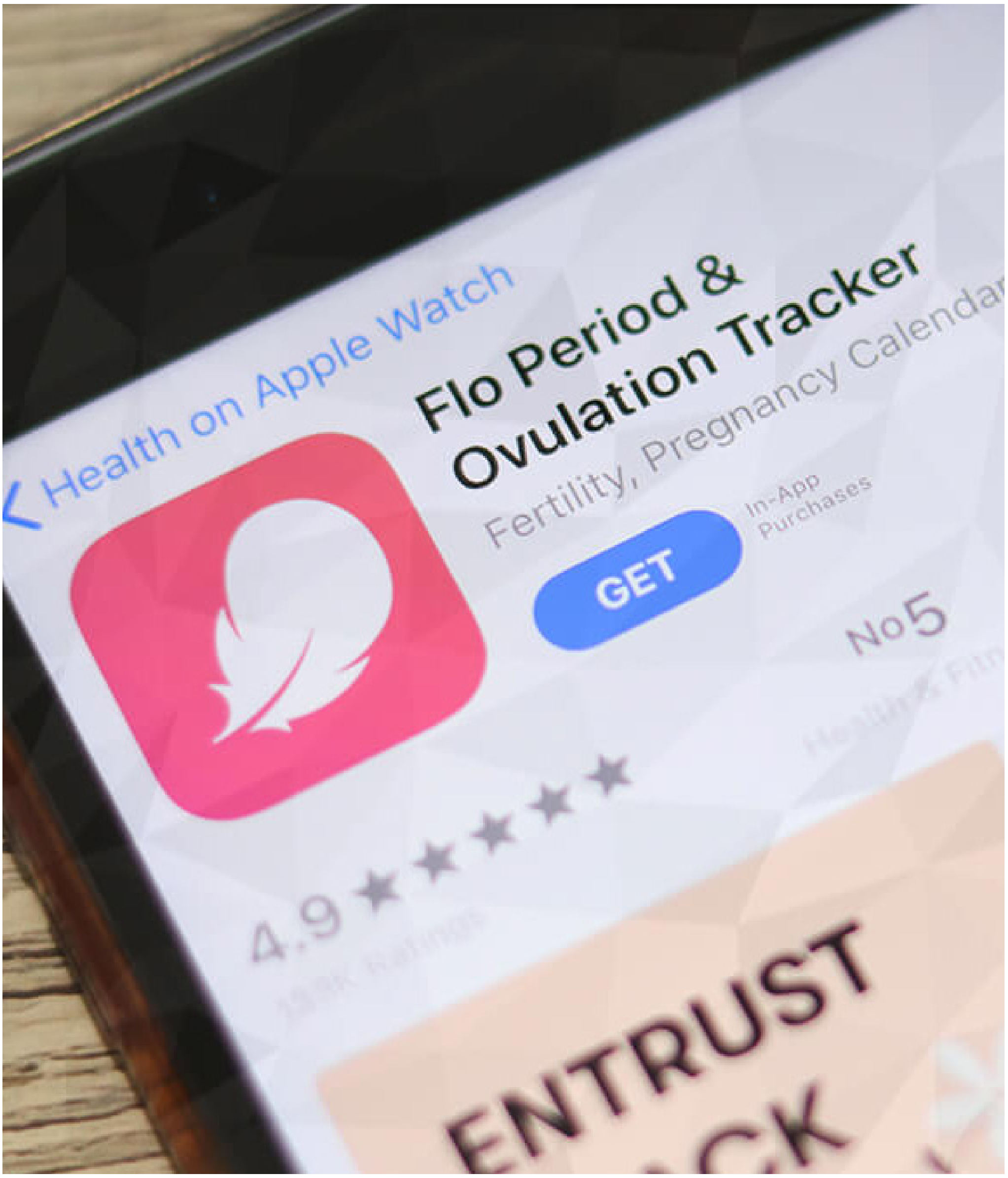


"Anonymous Mode" on Flo
Source: Forbes

In today's data-driven economy, the divide between convenience and privacy is narrowing, yet the cost of our clicks remains largely invisible. In 1992, we generated 100 gigabytes of data each day; by 2022, that figure surged to 150,000 gigabytes every second. The rapid growth in data collection compels us to click "Accept All" on terms and conditions with little thought for the information we surrender in return. In a time when data's power is increasingly weaponized, these developments raise profound questions about what we truly give away—and the ethical obligations of companies who collect and use this data.

Platforms like Flo Health, once trusted for their role in managing intimate health data, are now embroiled in controversy for sharing sensitive information with tech giants like Facebook and Google. Flo Health, a digital health technology company, offered an app including menstrual cycle and fertility tracking, pregnancy calendars, and personalized health insights. Users entered details about their periods, vaginal discharge, pregnancies, and even miscarriages, under the impression this information would remain private. Flo Health had explicitly promised to keep user data confidential, using it solely to improve the app's functionality. Not only did Flo's data sharing tendencies break their promise to users of keeping information private, but users were vulnerable to invasive advertising and data profiling without their consent.

Following the overturn of Roe V. Wade, abortion access is restricted in certain jurisdictions. Many women are anxious that their sensitive health information could be used against them. Period tracking, ovulation logs, and pregnancy details are no longer private as promised. Apps like Flo Health were heavily pressured to privatize data, as people worried that their data might be accessed in ways as extreme as being used in legal cases. In urgency to calm the crowd, the company responded by introducing "Anonymous Mode," to their app. The setting was introduced to satisfy users' concerns about their information and



Flo on the App Store

to get them to use the app comfortably again. Was it just another trick that was masked as a fix? Even if it was seen as a positive step, was it enough to rebuild the trust they broke?

In Canada, the repercussions against Flo were even more serious. A class-action lawsuit was introduced, accusing the app of unlawfully sharing the personal health information of over a million users over a span of three years. The lawsuit mainly discusses the use of software development kits (SDKs), tools provided by companies like Facebook that allow app developers to analyze user behavior and improve app performance. These SDKs in turn enable data sharing with the company that provides them- in this case, Facebook. This means that all of the sensitive health data users thought was kept private was also being used to improve Facebook's ad-targeting algorithms. It is argued that Flo wasn't transparent about this. Now, if they had been, the consequences likely would have been much less severe, as the customers knew where the information was going. Now, customers have even more suspicions as to what their personal data is being used for.

Flo Health is just one of many companies collecting data for profit. To understand how sensitive data affects society, it is important to start with the basics: data ethics. Data ethics are in place to make sure that when personal information is collected, it is used responsibly, with transparency, accountability, and fairness. For businesses, ethical data practices are necessary for survival in an increasingly privacy-conscious world. Truth be told, companies that operate ethically gain a competitive edge. Trust becomes a measurable asset, driving loyalty and long-term engagement. Many consumers constantly question how their data is handled and, in fact, demand clear communication, which comes to show how much this means to users. Flo Health showed us what happens with the companies that prioritize short-term profit over ethical responsibility.

> ***"Data ethics are in place to make sure that when personal information is collected, it is used responsibly, with transparency, accountability, and fairness. For businesses, ethical data practices are necessary for survival in an increasingly privacy-conscious world.***

The absence of uniform, enforceable standards across industries complicates efforts to uphold robust data ethics. While regulations like GDPR and the California Consumer Privacy Act (CCPA) provide some structure, many companies operate in a gray area, making decisions before laws are fully developed or enforced. This leaves significant gaps where sensitive data is mishandled simply because there are no clear rules against it. McKinsey advises that companies create internal frameworks that prioritize ethical considerations beyond basic legal compliance.

Fairness is just as important as privacy when it comes to data. It makes sure that algorithms and systems treat individuals and groups equitably and avoids bias that might lead to unequal outcomes, especially when profit is involved. When systems rely on flawed or incomplete data, they can unintentionally favor certain groups. For example, a financial algorithm designed to maximize loan approvals might favor one demographic over another because historical data reflects systemic inequalities. While this may increase efficiency or profit, it worsens these inequalities.

The University of Cumberlands emphasizes the importance of constant auditing to catch and address these issues. Without regular oversight, algorithms can reinforce harmful stereotypes or worsen inequalities, particularly in profit-driven sectors like healthcare or employment. A recruitment tool might unfairly prioritize candidates from certain backgrounds because biased data skews the results. These flaws ultimately damage the company's reputation and trustworthiness.

In the United States, data privacy is not at all consistent. Different states have different laws, and federal regulations only cover specific areas, like HIPAA for healthcare. California's CCPA gives some control back to consumers, but it's still just one state. The law does not specify a precise framework, so companies decide their rules until a lawsuit is decided. This approach encourages higher rates of innovation and profits, but people and their information are left vulnerable. Most people are left to protect themselves from a lack of policies.

The European Union's GDPR treats privacy as a fundamental right. Companies are required to have to tell users exactly what they're doing with their data and receive clear consent before collecting it. There is no hiding anything as users can access, correct, or delete their data anytime. If companies do not comply, they face significant fines and penalties. Some argue it is less efficient as it slows down many businesses from finding leads to grow. However, the EU places users first, believing that the trust it builds with consumers is invaluable.

In comparison, India introduces a melange of both. The country's Digital Personal Data Protection Act derives parts from both the U.S. and the EU. It values individual rights, but also does not want that to deter from using data for national growth. This middle ground could become a model for other countries that are in the unknown regarding privacy matters.

As different global approaches are compared, it is clear that some systems prioritize people over profits. Should companies act before laws are written, prioritizing fairness and transparency? Or will we continue to accept convenience at the cost of privacy and equity? The answer is not simple, but it's a question worth asking every time we click "Accept All."

Paychecks to Platforms: Navigating the Rise of Student Influencers

Student influencers gather for photo

Source: Medium

Written By
Anoosha Mallakanti

From 2021 to 2024, the influencer industry expanded from nearly $2 billion to almost $13.8 billion. This rapid growth is expected to continue, since one in four members of Gen-Z report plans to become an influencer celebrity. With barriers to information and digital platforms continuing to disappear, the consumer is more literate and cannot be fooled by fake promises that brands may intend to make. The rise of social media platforms has made it easier than ever to define and express one's identity. In the modern digital landscape, when genuine self-expression is more difficult than ever, social media offers countless platforms to construct various versions of oneself. In this article, we will examine the reasons for the rise of student influencers and the impact of these trends.

A less obvious driver behind the growth of influencers is the evolving needs of business. They know that the days of traditional marketing through billboards and traditional newspapers are long gone, and they need someone who knows their audience the best to brand their products in their own way. More and more people trust products if micro-influencers endorse them, not a celebrity they do not connect with. While a person can change the algorithm with one block or dislike, there is so much power in the consumers that these companies use by hiring the right influencers. Welcome to

the world of strategic partnerships!

Why are students drawn to this activity? Fame and money being the obvious motivators for this trend, we will search in an attempt to discover the not-so-obvious rationale. Influencers are self-employed and have limitless freedom to the type of content they wish to produce. With millions of categories, there seems to be a rage for a new trend every week.

After surveying multiple students on Cornell's campus, we found another motivator that is often overlooked. Traditional part-time roles burden students with complex administrative requirements—tax obligations, rigid scheduling, and managerial oversight—while providing minimal financial compensation. Most campus positions offer wages so minimal that basic personal expenses become a significant struggle. As a result, for students seeking flexible and easy-paying jobs, an influencer lifestyle seems to be attractive.

Being an influencer demonstrates to schools and companies that a person possesses an entrepreneurial mindset and provides insight into their personality and character. While social media makes it easy to curate an idealized version of oneself, many institutions and recruiters assess a student's content for authenticity and alignment with their goals.

This presence can serve as a distinctive advantage, offering an "X-factor" for career aspirations by fostering skills such as time management, public relations, marketing, and digital strategy. Influencers do more than simply post content; they actively engage with their audience and strategically utilize techniques such as hashtags, networking with like-minded individuals, and other methods to optimize their visibility on platforms and ensure their content reaches wider audiences.

Embracing innovation and creativity is always admirable. While not all influencers come from Ivy League backgrounds, many micro-influencers captivate audiences by sharing "day-in-my-life" content, showcasing their academic pursuits, university activities, extracurricular involvement, and other facets of their lives. This approach appeals to younger audiences by presenting an aspirational view of college life. While the most popular influencer categories often include fashion and entertainment (such as comedy and dance), a growing number of educational influencers focus on promoting career pathways, offering guidance on college selection, SAT preparation, and more.

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A recent Goldman Sachs study estimates that generative AI tools could impact the equivalent of 300 million full-time jobs worldwide. As AI continues to automate repetitive tasks, it creates anxiety among individuals who resist adapting and upskilling to meet the demands of a rapidly changing workforce. Additionally, the abundance of knowledge available online has made it increasingly difficult for individuals to stand out in an exceptionally competitive job market. Even entry-level positions often attract candidates with superior qualifications, leading to a heightened fear of navigating the professional landscape. This has contributed to the perception that becoming an influencer might offer a more straightforward and accessible alternative.

The onset of the pandemic brought about unprecedented changes, reshaping routines in ways previously unimaginable. With the rise of online meetings and the prevalence of permanent remote work, the increased reliance on digital platforms and frequent social media engagement has created significant opportunities for students to connect with a broader audience. Whether for educational content or entertainment, this shift has expanded their reach and influence considerably.

Rising inflation and economic instability have made diversifying income streams a necessity. While many strive to adopt a "work to live" mindset, this approach is increasingly difficult to sustain. Layoffs have become commonplace across industries, exacerbated by political tensions, evolving policies, higher taxes, lingering effects of the pandemic, and the rapid advancement of technology. Thousands lose their jobs due to circumstances beyond their control, making the role of an influencer appealing to students as

a perceived escape from these challenges and a simpler alternative. These shifts have also given rise to entirely new professions, including podcasters, audio content creators, online course instructors, virtual professional coaches, and influencers—the focus of this discussion.

Having explored the conditions that led to the growth of student influencers, we can now examine their impact. This trend positively influences the economy by driving consumer behavior through the promotion of various products and services. However, it also has drawbacks, such as encouraging fast fashion and consumerism. Constantly following influencers leads many young adults to imitate their lifestyles, often without recognizing the lack of authenticity in the content presented.

At the same time, this movement imparts a vital skill for today's generation: personal branding. Regardless of the product or service a student influencer promotes, they develop the ability to transform a conventional résumé into a compelling creative portfolio. Whether or not they achieve widespread success, these experiences teach them how to gauge audience preferences and present content in ways that resonate. They are continually challenged to innovate and produce engaging material.

As technology continues to evolve, student influencers embody more than a mere career choice—they emerge as adaptive strategists navigating a rapidly shifting global economic landscape.

Their rise reflects a broader redefinition of how young professionals conceptualize work, value, and self-development. With evolving notions of identity, expression, and privacy, combined with the significant influence young students now wield, the future holds both exciting and uncertain possibilities for the trajectory of this movement.

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The Business of Campus Brand Ambassadors

Written By
Maddie Amen

I distinctly remember the first time I saw an advertisement from a "Campus Brand Ambassador" at the age of 13—I was following an older girl from my gymnastics team, who had just started her freshman year of college. It was a photo of her sitting in bed, pretending to scroll on her phone, wearing minimal clothing and a hat that read "Tinder." The photo was accompanied by a short caption convincing her peers to download the app. Not only was I, as a seventh grader, shocked by what she was advertising, but I was confused as to why anyone would listen to her suggestion; she was not an influencer, but a regular college student with a relatively small following.

Six years later, after arriving at Cornell, I started seeing posts from Campus Brand Ambassadors, and coincidentally, while writing this article, I was asked to be one too. Immediately, I was reminded of my curiosity. Who is actually buying a product that they see their classmate promoting on their personal social media account? Are these brand ambassadors actually generating revenue?

One possible explanation for the lack of research on the impact of campus brand ambassadors stems from the challenges inherent in measuring marketing effectiveness in niche contexts. Smaller-scale "nano"-influencers, such as campus brand ambassadors, often operate within highly localized networks, making it difficult to isolate their influence from the broader marketing mix. Moreover, companies and influencers may keep detailed engagement and sales data private, limiting the amount of information available for academic study. Even when data is accessible, variables such as the ambassador's personal reputation, the brand's broader marketing strategy, and fluctuating social media algorithms can introduce confounding factors, further complicating measurements of true impact. Because campus brand ambassadors are essentially nano-influencers, however, much of the existing research on traditional influencers and revenue generation could theoretically be applied to them—if researchers can overcome these measurement hurdles.

While Campus Brand Ambassadors seem like a new phenomenon that grew with the rise of social media, using college students as a form of advertising to other college students has been occurring for the last two decades (Angrisani & Casabona, 2002). This demographic poses an attractive market not only because of their frequent, consistent spending, but because these are consumers who are still developing brand loyalty, and reaching them at this age could potentially gain a company lifetime customers (Angrisani & Casabona, 2002). And, word-of-mouth marketing, which is a slightly more organic and less direct version of current campus brand ambassador programs, is the most common way that college students learn about new products (Angrisani & Casabona, 2002). Past forms of college-specific marketing campaigns have been hosting on campus competitions to win products, placing visual advertisements around college campuses, and offering free samples to students.

However, in recent years, the idea of advertising specifically to college students has been revolutionized with the idea of campus brand ambassadors. Most brands that offer these ambassador programs define the role and its responsibilities similarly.

Bubble, a skincare brand, has a page on its website dedicated to Campus Ambassadors, offering students a chance to apply to "get the chance to attend special campus events, promote Bubble on your campus, complete college-specific challenges, and build your resume!" (Bubble 2024). Bubble's ambassadors are compensated with free products and gift cards, as well as commission on purchases made with their specific promo code. Bumble, a dating app, calls their college ambassadors "Honeys." Their website lists the time commitment as 3-5 hours a week spent creating social media content, partnering with local businesses, and hosting events on campus, though specific details about

public.

College students are drawn to these roles not only because of the low time commitment and attractive forms of compensation, but because they offer opportunities to develop professional skills and boost their resume (ULoop 2021). For students who want to go into the field of marketing, this is a valuable opportunity to learn how to maximize your own personal brand and social media presence to reach your target audience, and these roles offer professional experience that can translate to future jobs and internships. Not only this, but ideating posts and marketing concepts may provide an indespensible creative outlet.

Because these ambassadors are typical college students, most of them have social media follower counts of around a few thousand. While successful influencers are usually considered as having hundreds of thousands of followers, with influencing as a full time job, this study actually found that in terms of revenue generation, nano-influencers with lower follower counts actually provide companies a higher return on their investment. This effect arises from followers perceiving a close personal connection with the influencer, which enhances the trust they place in the influencer (Beichert et al., 2024). In fact, influencer marketing succeeds primarily because audiences feel both a strong rapport with and a sense of obligation to support the influencer's endorsements.

Theoretically, this effect would be even more pronounced for campus ambassadors, as their audience consists of individuals with whom they share a personal relationship, fostering a greater sense of trust in the quality of the products being promoted. Furthermore, because most college students have grown up as active users and consumers of social media, they are a strong resource for companies to use to advertise their products. They are media literate and are aware of the type of content that their generation, and specifically, their peers respond to.

Source: Bubble Skincare

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While there is a lack of research on the actual revenue generated by campus brand ambassadors, it is clear that these programs serve as a mutually beneficial relationship, and their adoption by a growing number of companies speaks to the notion that these ambassadors are incentivizing purchases from their peers.

Consciousness and Computers

Written By
Katia Torres Ortiz

Source: Built In

Imagine you are in the future, waking up to a warm breakfast in bed, served by your artificial intelligence companion– Robert or John, perhaps, with a name as disarmingly human as its demeanor. Robert greets you warmly, reviews your schedule for the day, helps your kids prepare for school, and handles the day's chores with precision. Robert feels less like a machine and more like a member of the family, complete with the ability to think, empathize, and respond as you do. While this scenario might sound like science fiction, some researchers believe that within 5-20 years, advancements in the so-called "Artificial Consciousness" could make this vision a reality, blurring the line between humans and machines in ways we've only dreamed of.

The history of A.I dates back to thousands of years, with ancient philosophers and inventors exploring ideas of artificial life and automation. Modern AI development began in the early 20th century, with significant milestones in the mid-1900s, including Alan Turing's groundbreaking work and the coining of "artificial intelligence" in 1955 (Tableau). The current era of AI has made drastic leaps since this definition, with tools like OpenAI's ChatGPT and DALL-E. Modern artificial intelligence is built through technologies including automated machine learning and neural networks that enable computers to continually develop from the information it is given. While AI's future is one of interest and perhaps concern, experts anticipate further integration into businesses, robotics, and daily life, especially with the possibility of Artificial Consciousness.

What exactly is "Artificial Consciousness?" This phenomenon refers to a non-biological, non-human machine that is aware of its own existence. If developed in years to come, this could profoundly affect our understanding of what it means to be alive and human. The main category of AI is Artificial General Intelligence (AGI), in which machines can observe, learn, and apply these learnings to different situations. While this ability is inherent in humans and other living beings, even at the early stages of development, we have yet to see a machine that can replicate an equivalent lev-

el of adaptability. True AGI must demonstrate a broad, flexible intelligence akin to human cognition. "Artificial Consciousness" is different in that it introduces the concept of sentience and self-awareness. Unlike intelligence, which can be measured through data from IQ tests, consciousness is a much more abstract concept that is harder to define and assess (Silkin). It presents a more philosophical challenge rather than a technical one.

The debate about what consciousness really means adds even more uncertainty to when AC may be created. Consciousness remains a master of the modern sciences. There are four main theories that attempt to explain this concept. The Higher-order theory suggests that our basic thoughts become conscious when they resurface to higher brain levels, such as the prefrontal cortex. The Global workspace theory claims the mind functions like a theater, where conscious thoughts are those spotlighted on a mental stage and distributed across regions of the brain. The Integrated Information Theory suggests our consciousness stems from the integration of interconnected brain components that are quantifiable through mathematical measures. This is perhaps the most relevant to the discussion of AC, as it also suggested that any sufficiently complex system, not just human brains, could possess consciousness. The final theory, the re-entry, and predictive processing theory, emphasizes top-down communication wherein higher brain regions provide lower regions with expectations to refine the senses (Forbes).

These theories differ just as propositions regarding the theory of AI consciousness differ. According to a research paper titled "Conscious AI" by Hadi Esmaeilzadeh and Reza Vaezi, there are four boxes AI needs to check in order to be considered conscious (using the general definition of consciousness as an awareness of self). The first proposition is that there must be two AI machines that can interact and communicate within a shared environment. This has already been proven possible in a research study at Université de Genève where a team succeeded in modeling an artificial neural network capable of providing linguistic messages and descriptions to an alternative AI, which in turn responded to them (ScienceDaily). The second proposition is that AI must generate novel communication signals that are not pre-programmed but arise from spontaneous discussion. At the same time, AI must be able to transform signals into symbols with shared meanings. In simpler terms, AI must replicate how humans use different languages to describe the same object or concept. The fourth proposition is that conscious AI must have an internal state, allowing it to interpret its own thoughts and understand other AI's communications(Conscious AI). If AI achieves these levels, then our current understanding of consciousness, AI can become a feeling and empathizing machine.

Profound implications and concerns will arise, with impacts across society, ethics, and artificial intelligence research. Conscious and empathetic AI could influence the job market, displacing high-level service industry jobs previously considered secure from automation because they require the humanity that people bring to the table. However, creativity and innovation could just as easily be replicated by a fully conscious AI. Empathetic AI would enhance service quality, potentially surpassing human service providers in regard to reliability and responsiveness. Philosophical and legal questions then come into play, such as whether it is ethical to terminate a conscious AI and whether humans hold authority over metal-based machines.

As we progress into an automated future, setting rigorous technical standards to identify AI innovations and emerging communication forms becomes increasingly critical. This calls for a larger conversation between the values we as humans hold, and if such values could ever be inherent within a computer-based system such as AI. If that is the case, there is further a question of how the AI perceives itself and its values, potentially creating a world in which we as humans are in misalignment with the machines we have created.

Launch-a-Biz

Written By
Abe Litvak

Back on the mats he used to wrestle on, Eli coaches the incoming freshman who take a year to train before starting their wrestling career at Cornell. Wrestling is just one of Eli Bienstock's passions — he is an entrepreneur at heart and a lawyer by trade. Upon graduating from Cornell with a communications major and a perfect GPA, Eli continued his education at Cornell, completing an MBA and Law degree simultaneously. Eli's impressive skillset landed him a job at a major law firm, Debevoise & Plimpton, but his interest in entrepreneurship left him unfulfilled. To feed his creative ambition, Eli designed his first side project, an adult card game named Toast. While Eli loved designing his own project, he realized he would be better off leveraging his business and law expertise to start a business if he decided to make a career out of entrepreneurship.

After connecting with a friend of his, John Luca, a website designer, Eli came up with his next plan: a startup business that would package a host of services essential to launch a small business. With the help of his friend John, they packaged a broad array of legal, website, and logo design services into a single product start-ups could purchase at an affordable price. Through word of mouth, Eli landed his first client, a gym that was expanding to a new location. Launch-A-Biz successfully rebranded and built a new website for the gym. With proof his business provided real value to start-ups, Eli decided to quit his job as a lawyer and move back to Ithaca. Back in Ithaca, Eli helps out coaching the wrestling team, works with the entrepreneurship at Cornell organization, and continues to grow his business. Eli seems to have found meaning in his work through building his own company rather than feeling stuck as a cog in the wheel at his past job.

Eli describes his company's vision as an affordable, quick, and collaborative service that, "like a dating app, is designed to be deleted" once the business is functioning smoothly. Eli's vision for the future is to continue to expand his client base, and expand the services Launch-A-Biz provides. Eli incorporates financial services into Launch-A-Biz's base package, available to purchase for $1,000. As many start-ups cannot afford a CFO and do not know the best strategies for managing capital they have raised, Launch-A-Biz could take on the role of an outsourced CFO in the early stages of a start-ups journey. This endeavor would require Eli to expand his company by bringing on a CPA which Eli commented is not currently feasible. To bring on more help without increasing costs, Eli mentioned the idea of utilizing the thousands of ambitious students at Cornell through starting an internship program.

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Eli is also considering working with an AI developer to utilize LLMs in automating some aspects of the customer services provided. However, he acknowledges that personalized collaboration and meticulous attention to clients must continue to ensure enduring customer loyalty.

Eli has taken a risk by changing his career trajectory to return to the rural landscape of Upstate New York, yet upon meeting Eli, his passion for creating his own business was contagious displaying the makings for a great entrepreneur. Eli's path so far serves as a great example for the many Cornell students who see the job market through a narrow lens aiming only for the few most prestigious firms in a given industry. Eli underscores that hard work, a clear sense of purpose, and confidence in personal judgment—rather than deference to societal expectations—can lead to a deeply fulfilling career path. As for aspiring entrepreneurs seeking to launch their own ventures, Launch-A-Biz offers a promising starting point.

From His Parents' Garage to the Skies: Building Self-Flying Passenger Drones at Age 18

Written By
Renee Cai and Isabella Blanco

At age 11, Max Owens built his first 3D printer. He had been given a packet of instructions, all written in Chinese. The language barrier didn't stop Owens, who asked himself, "why not just jump in?" After some time, he successfully assembled the machine by himself. Owens, a fifth grader in North Carolina, soon turned to coding and building drones. When creating standard drones eventually became boring, he thought to himself, "why not just make a really big drone that I can sit and fly around in?" So Owens founded MARVIK, INC. After a few years of trial and error, Owens built a self-flying human passenger drone from the inside of his parents' garage. Surrounded by friends and family, he got inside, and took it for a spin. He hadn't even graduated from high school.

Hard work, and probably a little bit of genius, got him so far. After first coming up with the idea, he asked his high school principal for funds to complete the project. As only "a young kid with a drawing," he was turned down. This initial rejection did not deter him. Dedicating countless hours after school, he built the cockpit of the drone with parts from the local Home Depot. After accomplishing this feat, he launched a friends and family fundraiser, eventually raising nearly $30,000 in non-dilutive funding. With the newly secured cash, he ordered and painstakingly assembled the electronics of the vehicle. The end result: MAVRIK MK-8, an AI-driven passenger drone made from carbon fiber material and space-grade aluminum. MK-8 features a sleek and simple design that is not only pleasing to the eye, but also minimizes manufacturing costs and increases affordability for buyers.

The day after he flew in the MK-8, Owens enrolled at Cornell to study mechanical engineering. He hoped to continue building and improving his drone in college, but finding space on campus was nearly impossible. He instead spent the first half of his undergraduate career focusing on business development opportunities for MAVRIK. In February of 2024, after securing an investment of $1.4 million dollars, Owens decided to leave Cornell and commit full-time to his company.

The founder and CEO, now 21, is far from done. He and his team now operate out of an aircraft hangar located in Long Beach, California. Under Owens' leadership, a diverse array of professionals has joined the team, including engineers with past experience at NASA and Boeing, as well as current Cornell students. A limited pre-order waitlist is already available for the even more impressive MAVRIK MK-9 model, which is currently in development. Owens' ultimate goal is to commercialize the self-flying passenger drones. He aims to "share the experience of flight with everyone." Though the endeavor remains in its early stages, Owens believes his dream is within reach. He envisions a future world similar to that showcased in the 1960s show "The Jetsons," one in which people don't have to wait for public transportation or suffer through long security lines at the airport. Instead, one can hop on a passenger drone and commute to work 500 feet above the ground. Most importantly, Owens envisions a world in which his technology saves lives. Imagine the potential of passenger drones to advance search and rescue missions, decrease ambulance response times, and swiftly transport life-saving food, water, and equipment to aid disaster relief efforts.

At just 21 years old, Owens has defied most expectations. His innate drive and sense of curiosity have set him apart. If his 11-year-old self had not dared ask "why not?", he never would have self-built a 3D printer and started to develop small drones. If his teenage self had never asked "why not?", he wouldn't have experienced the thrill of piloting a self-built passenger drone on the neighborhood lawn. On this path to success, it is important to not give up at the first sight of an obstacle. Owens believes that "if you spend enough time with a problem, you can build anything." While having a strong sense of ambition is crucial, sometimes ideas do not always arise out of sheer will, but a strong desire to play. As a child, Owens would dismantle his toys to figure out how they worked. He "enjoyed mixing and matching different parts and mechanisms to make something new." Owens remarks, "whether or not my creation was of any use didn't matter to me." Max's journey exemplifies the enduring value of childlike wonder. No idea, no matter how great, can reach its full potential or transform society without ongoing refinement, driven by the feedback and support of others. To make a real impact, a strong network is crucial. A legacy of kindness and trustworthiness is just as important as a legacy of scientific innovation. When asked how he believes his team members view him, Owens replies with no hesitation, "I hope most people describe me as a good friend." It is being "a good friend," as well as a highly talented engineer, that will take him to even greater, and hopefully higher, places.

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